

Amendments to the Claims:

This listing of claims will replace all prior versions and listing of the claims in the application:

Listing of claims:

1. (Currently Amended) A computer system, comprising:

a network interface for communication via a switched network;

[[an]] a multi-tasking operating system adapted to execute for execution of a
plurality of applications;

an isochronous audio application executable within the multi-tasking operating system substantially in parallel with other applications executable by the multi-tasking operating system;

a network interface driver executable configured to operate within the multi-tasking operating system, the network interface driver executable to receive operable to send and receive via the network interface a switched network a stream of packets for the applications, where the stream of packets includes data packets and isochronous audio packets, transmission of the isochronous audio packets is being in response to receipt of a respective synchronization packet, the isochronous audio packets include including isochronous audio data, and the data packets are unrelated to the isochronous audio data including information other than the isochronous audio data and other than information related to communication of the isochronous audio data; and

an isochronous audio driver executable within the multi-tasking operating system, the isochronous audio driver in communication with the network interface driver and the

applications, the isochronous audio driver configured to decode isochronous audio packets in the received stream of packets and;

the network interface driver is executable to provide the stream of packets to the isochronous audio driver in response to an interrupt request provided to the network interface by the multi-tasking operating system; and

the isochronous audio driver is executable to decode isochronous audio packets in the stream of packets, to provide decoded audio data included in the isochronous audio packets to the isochronous audio application, and the isochronous audio driver further configured to pass the data packets unmodified without change to a protocol stack, the protocol stack being executable within the multi-tasking operating system configured to provide information in the data packets to the other applications, the execution of the isochronous audio driver being in response to said interrupt request provided to the network interface by the multi-tasking operating system.

2. (Currently Amended) The computer system of claim 1, where, in response to only one interrupt request from the network interface, the multi-tasking operating system is configured to execute executes the network interface driver, the isochronous audio driver and the isochronous audio application as a group to process isochronous audio packets received from and transmitted via the switched network.

3. (Currently Amended) The computer system of claim 2, where the network interface driver, the isochronous audio driver and the isochronous audio application are

executed sequentially without interruption when an isochronous audio packet is received from the switched network.

4. (Currently Amended) The computer system of claim 3, where the stream of data further includes a plurality of synchronization packets and the network interface driver, the isochronous audio driver and the isochronous audio application are executed sequentially without interruption when one of the plurality of synchronization packet is received from the switched network to process audio data and transmit an asynchronous audio packet that includes the audio data.

5. (Currently Amended) The computer system of claim 1, where the multi-tasking operating system is one of a windows WINDOWS operating system, a Unix operating system and a Linux operating system.

6. (Previously Presented) The computer system of claim 1, where the isochronous audio packets are decoded to remove a header that includes an identification number, a source address and a data address.

7. (Currently Amended) The computer system of claim 1, where the isochronous audio packets are first isochronous audio packets, the stream of data further includes a plurality of synchronization packets, and the isochronous audio driver is configured executable to prepare second isochronous audio packets for transmission in the sent

stream of packets in response to receipt of one of the synchronization packets that meets a predetermined criteria.

8. (Original) The computer system of claim 1, where the stream of packets is a stream of Ethernet packets.

9. (Original) The computer system of claim 1, where the isochronous audio packets include isochronous audio data that is formatted in accordance with a CobraNet specification, and the isochronous audio packets are decoded to extract the isochronous audio data and convert the isochronous audio data to audio data.

10. (Original) The computer system of claim 1, where the audio data is only uncompressed audio data.

11. (Currently Amended) A computer system, comprising:
a memory;
a network interface for communication via a switched network; and
a processor in communication with the network interface and the memory, the memory comprising computer instructions executable by the processor, the computer instructions comprising:
[[an]] a multi-tasking operating system adapted to execute for execution of a plurality of applications: [[, the]]

a network interface driver executable configured to operate within the multi-tasking operating system, the network interface driver further executable to receive
operable to send and receive via the network interface a switched network a stream of
data packets and isochronous audio packets for the applications, the isochronous audio
packets including isochronous audio data, the data packets including information other
than the isochronous audio data and other than information related to communication of
unrelated to the isochronous audio data, and transmission of the isochronous audio
packets being in response to receipt of a respective synchronization packet;

an isochronous audio driver in communication with the network interface driver
and at least two of the applications, where the isochronous audio driver is executable
configured to identify and decode isochronous audio packets to extract for extraction of
audio data, where the network interface driver is executable to provide the stream of
packets to the isochronous audio driver in response to an interrupt request provided to
the network interface by the multi-tasking operating system; and

a protocol stack adapted to communicate with the isochronous audio driver and
applications other than [[the]] an isochronous audio application;

where the isochronous audio driver and the protocol stack are configured to
execute within the multi-tasking operating system; and

where the isochronous audio driver is executable both configured to provide the
audio data from the decoded isochronous audio packets to the isochronous audio
application, and to pass the data packets received from the switched network to the
protocol stack unaltered by the isochronous audio driver in response to the interrupt
request.

12. (Cancelled)

13. (Original) The computer system of claim 11, where the isochronous audio driver is further configured to generate and transmit isochronous audio packets from audio data.

14. (Original) The computer system of claim 13, where the stream includes synchronization packets, the isochronous audio driver configured to receive and decode one of the synchronization packets and generate an isochronous audio packet from audio data in response to receipt of the one of the synchronization packets.

15. (Currently Amended) The computer system of claim 11, where the multi-tasking operating system is multi-tasking-and multi-threaded.

16. (Currently Amended) The computer system of claim 15, where the multi-tasking operating system is configured to execute other applications substantially in parallel with the isochronous audio driver and the isochronous audio application.

17. (Currently Amended) The computer system of claim 11, where the operations of the isochronous audio application all occur at [[the]] a_driver level of the multi-tasking operating system.

18. (Original) The computer system of claim 11, where the protocol stack includes a TCP/IP protocol.

19. (Original) The computer system of claim 11, where the isochronous audio driver is configured to analyze and sort the isochronous audio packets and the data packets.

20. (Currently Amended) A computer system, comprising:

a memory; and

a processor in communication with the memory, the memory comprising computer instructions executable by the processor, the computer instructions comprising:

an isochronous audio application executable configured to format audio data received from a source of audio data; and

an isochronous audio driver in communication with the isochronous audio application, the isochronous audio driver executable configured to convert the formatted audio data to isochronous audio data and buffer the isochronous audio data, where the isochronous audio driver and the isochronous audio application are executable within [[an]] a multi-tasking operating system;

where the isochronous audio driver is executable configured to receive data packets from a protocol stack executable configured to execute within the multi-tasking operating system, the data packets including information unassociated with other than the isochronous audio data and other than information related to communication of the isochronous audio data;

where the isochronous audio driver is executable adapted to receive and decode a synchronization packet receivable from a switched network, where the synchronization packet includes a frame number;

where in response to receipt of the synchronization packet, the isochronous audio driver is executable configured to generate an isochronous audio packet that includes buffered isochronous audio data and the frame number, the isochronous audio packet transmittable over the switched network; and

where, in response to only one interrupt request generated by the multi-tasking operating system, the isochronous audio driver and the isochronous audio application execute as a group to process isochronous audio packets received from the switched network.

21. (Original) The computer system of claim 20, where the isochronous audio driver includes a packet request module configured to request audio data from the isochronous audio application whenever a packet supply buffer included in the isochronous audio driver is less than full.

22. (Original) The computer system of claim 20, where the isochronous audio driver includes a packet synchronization module configured to receive the synchronization packet and extract the frame number there from.

23. (Original) The computer system of claim 20, where the source of audio data can be any one of a compact disc, an audio data storage device and a microphone.

24. (Original) The computer system of claim 20, where the isochronous audio driver includes a packet request module, a packet supply buffer module and a packet format module, where the packet request module is configured to monitor the packet supply buffer and request additional audio data from the isochronous audio application whenever the packet supply buffer is not full, and the packet format module is configured to extract audio data from the packet supply module and format the audio data to form isochronous audio data.

25. (Original) The computer system of claim 24, further comprising a transmit buffer, where the packet format module is configured to store isochronous audio data in the transmit buffer and generate isochronous audio packets from the isochronous audio data stored in the transmit buffer for transmission over the switched network.

26. (Original) The computer system of claim 20, where the isochronous audio data includes the data indicative of the resolution of a plurality of audio data samples included in the isochronous audio data, data indicative of the frequency of the audio data samples and data indicative of the number of channels of audio data that are included in the isochronous audio data.

27. (Original) The computer system of claim 20, where the audio data in the isochronous audio packets is uncompressed.

28. (Currently Amended) The computer system of claim 20, where the isochronous audio driver is configured to operate only on a driver level of ~~a multi-tasking, multi-threaded~~ the multi-tasking operating system, the multi-tasking operating system being multi-threaded.

29. (Currently Amended) A computer system, comprising:

a memory;

a network interface for communication via a switched network; and

a processor in communication with the network interface and the memory, the memory comprising computer instructions executable by the processor, the computer instructions comprising:

[[an]] a multi-tasking operating system for execution of adapted to execute a plurality of applications substantially in parallel;

a network interface driver executable within the multi-tasking operating system to send and receive via the network interface a stream of packets for the plurality of applications; and

isochronous audio software executable with the multi-tasking operating system to process received isochronous audio packets, and generate isochronous audio packets from audio data for transmission;

~~where the network interface is to operate within the operating system, the network interface adapted to send and receive via a switched network a stream of packets for a plurality of applications, where the received stream of packets includes data packets, synchronization packets and isochronous audio packets and the sent~~

stream of packets includes data packets and isochronous audio packets, where transmission of each of the isochronous audio packets is in response to receipt of a respective one of the synchronization packets, and where the data packets include information unrelated to either than the audio data and either than information related to communication of the audio data;

where the network interface driver is executable to provide the stream of packets to the isochronous audio software in response to an interrupt request provided to the network interface by the multi-tasking operating system;

where the isochronous audio software is executable adapted to communicate with the network interface driver and the applications, the isochronous audio software further executable configured to decode isochronous audio packets from the received stream and further executable configured to pass data packets from the received stream to the other applications through a protocol stack without any processing of the data packets by the isochronous audio software driver, the execution of the isochronous audio software being in response to said interrupt request provided to the network interface by the multi-tasking operating system: [[,]] and

where the isochronous audio software is further executable configured to initiate transmission of the isochronous audio packets generated by the isochronous audio software in the sent stream of packets in response to receipt of a synchronization packet in the received stream of packets.

30. (Currently Amended) The computer system of claim 29, where the multi-tasking operating system is a WINDOWS windows based operating system.

31. (Currently Amended) The computer system of claim 29, where the isochronous audio software comprises an isochronous audio driver executable at a driver level of the multi-tasking operating system and an isochronous audio application executable at an application level of the multi-tasking operating system.

32. (Currently Amended) The computer system of claim 29, where the isochronous audio software comprises an isochronous audio driver and an isochronous audio application, and the multi-tasking operating system is operable in a safe mode in which the isochronous audio driver is enabled to be executed and the isochronous audio application is disabled.

33. (Original) The computer system of claim 29, where the isochronous audio software is configured to be executable in a pre-configured and pre-existing operating system utilizing pre-existing and pre-configured hardware.

34. (Currently Amended) A computer system, comprising:
a memory;
a network interface; and
a processor in communication with the network interface and the memory, the memory comprising computer instructions executable by the processor, the computer instructions comprising:

[[an]] a multi-tasking operating system adapted to execute a plurality of applications, the network interface configured to operate within the multi-tasking operating system, the network interface operable to send and receive isochronous audio packets and data packets via a switched network in response to an interrupt request provided to the network interface by the multi-tasking operating system;

isochronous audio software that is executable within the multi-tasking operating system substantially in parallel with other applications executable by the multi-tasking operating system, the isochronous audio software executable to process isochronous audio packets received from or provided to the network interface in response to said interrupt request provided to the network interface by the multi-tasking operating system, where the isochronous audio packets each include audio data, and transmission of each of the isochronous audio packets is in response to receipt of a respective synchronization packet; and

the isochronous audio software is further executable to pass data packets received from the network interface to a protocol stack accessible by at least one of the other applications, the data packets including information unrelated to either than the audio data and other than information related to communication of the audio data.

35. (Currently Amended) The computer system of claim 34, where the interrupt request is a first request, the network interface is configured to generate [[an]] a second interrupt request to the multi-tasking operating system, and the network interface and the isochronous audio software executable to process the isochronous audio packets in

response to only one interrupt, the one interrupt being the first interrupt request provided by the multi tasking operating system in response to the interrupt request.

36. (Previously Presented) The computer system of claim 34, where the isochronous audio software is executable to format audio data into the isochronous audio packets for transmission over the switched network.

37. (Previously Presented) The computer system of claim 36, where the isochronous audio packets are formatted in accordance with a CobraNet specification.

38. (Previously Presented) The computer system of claim 34, where the isochronous audio software is configured to retrieve the audio data from a memory device and generate the isochronous audio packets provided to the network interface.

39. (Previously Presented) The computer system of claim 34, where the isochronous audio software is configured to process the isochronous audio packets received from the network interface to extract the audio data, the audio data storable in a memory device by the isochronous audio software.

40. (Previously Presented) The computer system of claim 34, where the switched network is an Ethernet network.

41. (Previously Presented) The computer system of claim 34, where the audio data is only uncompressed audio data.

42. (Currently Amended) A computer system, comprising:

a memory;

a network interface; and

a processor in communication with the network interface and the memory, the memory comprising computer instructions executable by the processor, the computer instructions comprising:

[[an]] a multi-tasking operating system for execution of adapted to execute a plurality of applications: [[, the]]

a network interface driver executable configured to operate within the multi-tasking operating system, the network interface driver executable operable to receive isochronous audio packets and data packets from the network interface a-switched network, the isochronous audio packets including isochronous audio data, and the data packets including information other than the isochronous audio data and unrelated to communication of the isochronous audio data, where transmission of each of the isochronous audio packets is in response to receipt of a respective one of a plurality of synchronization packets, and the network interface driver is further executable to provide the data packets and the isochronous audio packets to the isochronous audio driver in response to an interrupt request provided to the network interface by the multi-tasking operating system; and

isochronous audio software ~~that is executable within the multi-tasking operating system substantially in parallel with other applications executable by the~~ within the multi-tasking operating system, the isochronous audio software executable to extract audio data from the isochronous audio packets ~~and received from a switched network, the isochronous audio software further executable to pass the data packets unmodified from the network interface to at least one of the other applications in response to the interrupt request.~~

43. (Original) The computer system of claim 42, further comprising a protocol stack executable substantially in parallel with the isochronous audio software to extract data from the data packets received from the switched network for the other applications.

44. (Currently Amended) The computer system of claim 42, where the isochronous audio software comprises ~~an isochronous audio driver configured to extract the audio data and an isochronous audio application configured to process the audio data to be playable and savable in a predetermined format.~~

45. (Original) The computer system of claim 42, where the data packets are formatted to a transmission control protocol/Internet protocol.

46. (Currently Amended) The computer system of claim 42, where ~~the switched network is an Ethernet network and the network interface is an Ethernet network interface.~~

47. (Original) The computer system of claim 42, where the network interface conforms to an IEEE 802.3 standard.

48. (Original) The computer system of claim 42, where the network interface is adapted to transmit the isochronous audio packets to the switched network.

49. (Original) The computer system of claim 48, where the isochronous audio software is executable to format audio data into the isochronous audio packets.

50. (Original) The computer system of claim 42, where the isochronous audio packets are formatted in accordance with a CobraNet specification.

51. (Previously Presented) A computer system, comprising:
a memory;
a network interface; and
a processor in communication with the network interface and the memory, the memory comprising computer instructions executable by the processor, the computer instructions comprising:

[[an]] a multi-tasking operating system for operation of configured to operate a multi-threaded, multi-tasking computing environment; [[, the]]

a network interface driver executable configured to operate within the multi-tasking operating system, the network interface configured to transmit isochronous audio packets via the network interface a switched network, and configured to receive data packets and synchronization packets from a switched network via the network interface, and to provide a first interrupt request to the multi-tasking operating system in response to receipt of one of the synchronization packets, where the multi-tasking operating system provides a second interrupt request to the network interface in response to receipt of the first interrupt request; and

isochronous audio software that is executable within the multi-tasking operating system substantially in parallel with other applications executable within the multi-tasking operating system, the isochronous audio software executable to format audio data into the isochronous audio packets for transmission by the network interface driver in response to receipt of one of the synchronization packets receipt of the second interrupt request by the network interface;

the isochronous audio software further executable within the multi-tasking operating system to provide the data packets to receive data packets from a protocol stack, the protocol stack in communication with at least one of the other applications, the data packets including information other than the audio data and unrelated to communication of the audio data, the protocol stack being for the at least one of the other applications to communicate on the switched network.

52. (Original) The computer system of claim 51, where the isochronous audio packets are formatted in accordance with a CobraNet specification.
53. (Original) The computer system of claim 51, comprising network software that is executable to extract data from the data packets received from the switched network.
54. (Cancelled)
55. (Original) The computer system of claim 51, where the isochronous audio software comprises an isochronous audio application.
56. (Original) The computer system of claim 51, where the data packets and synchronization packets are formatted to a transmission control protocol/Internet protocol.
57. (Original) The computer system of claim 51, where the switched network is an Ethernet network and the network interface is an Ethernet network interface.
58. (Currently Amended) A computer system, comprising:
 - a memory;
 - a network interface; and

a processor in communication with the network interface and the memory, the memory comprising computer instructions executable by the processor, the computer instructions comprising:

[[an]] a multi-tasking operating system that is adapted to execute a plurality of applications, the applications executable within the multi-tasking operating system to communicate with a switched network via the network interface according to a network protocol; and

isochronous audio software that is executable within the multi-tasking operating system substantially in parallel with other applications executable within the multi-tasking operating system, the isochronous audio software executable to communicate isochronous audio packets with the switched network via the network interface, where transmission of each of the isochronous audio packets is in response to receipt of a respective one of a plurality of synchronization packets, the applications include the isochronous audio software, and the isochronous audio software is executable to communicate the isochronous audio packets via the network interface in response to receipt by the network interface of an interrupt request provided by the multi-tasking operating system, transmission of the isochronous audio packets by the network interface also being in response to said interrupt request;

the isochronous audio software further executable within the multi-tasking operating system to communicate data packets between at least one of the other applications and the network interface, the data packets including information other than isochronous audio data and unrelated to communication of the isochronous audio data, the isochronous data packets including the isochronous audio data, where the data

packets and the isochronous audio packets are formatted in accordance with different respective protocols.

59. (Original) The computer system of claim 58, where the protocol is a transmission control protocol/internet protocol.

60. (Original) The computer system of claim 58, where the isochronous audio packets are formatted to a CobraNet specification.

Claims 61-67 (Cancelled)

68. (Previously Presented) The computer system of claim 1, where the data packets are formatted in accordance with a first protocol and the isochronous audio packets are formatted in accordance with a second protocol.

69. (New) A computer implemented method of communicating audio over a switched network, comprising:

receiving a stream of packets from the switched network via a network interface, the stream of packets including data packets and isochronous audio packets, the data packets being unrelated to the isochronous audio packets;

generating a first interrupt request to a multi-tasking operating system by the network interface in response to receipt of the stream of packets;

receiving with the network interface a second interrupt request generated by the multi-tasking operating system;

providing the stream of packets to an isochronous audio driver with a network interface driver executable within the multi-tasking operating system, the providing the stream of packets in response to receipt of the second interrupt request;

processing the stream of packets with the isochronous audio driver in response to the receipt of the second interrupt request by:

passing the data packets unmodified from the isochronous audio driver to a protocol stack, the protocol stack being for communication on the switched network by at least one application; and

passing isochronous audio data in the isochronous audio packets to an isochronous audio application from the isochronous audio driver; and

executing, with the multi-tasking operating system, the network interface driver and the isochronous audio driver substantially in parallel with the protocol stack, the at least one application and the isochronous audio application.

70. (New) The method of claim 69, where processing the stream of packets with the isochronous audio driver further comprises determining whether a packet is an isochronous audio packet.

71. (New) The method of claim 69 further comprising extracting the isochronous audio data with the isochronous audio driver.

72. (New) The method of claim 69, further comprising extracting the isochronous audio data from isochronous audio packets with the isochronous audio application, where passing the isochronous audio data to the isochronous audio application from the isochronous audio driver comprises passing the isochronous audio packets to the isochronous audio application.

73. (New) The method of claim 72, where extracting audio data with the isochronous audio application is in response to the receipt of the second interrupt request.

74. (New) The method of claim 69, further comprising executing the network interface driver, the isochronous audio driver and the isochronous audio application sequentially without interruption in response to the receipt of the second interrupt request.

75. (New) The method of claim 69, where isochronous audio packets are transmitted in response to receipt of a synchronization packet and the data packets are not.